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Service Manual

302.5C MINI HYD EXCAVATOR

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Service Information System

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Disassembly and Assembly
302.5C Mini Hydraulic Excavator Machine Systems
Media Number -RENR9147-00 **Publication Date -01/09/2005** **Date Updated -13/09/2005**

i02391113

Accumulator (Hydraulic Pilot) - Remove and Install

SMCS - 5077-011-PS; 5077-012-PS

Removal Procedure

Start By:

A. Release the hydraulic system pressure. Refer to Disassembly and Assembly, "Hydraulic System Pressure - Release".

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

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1. Open the engine access door.

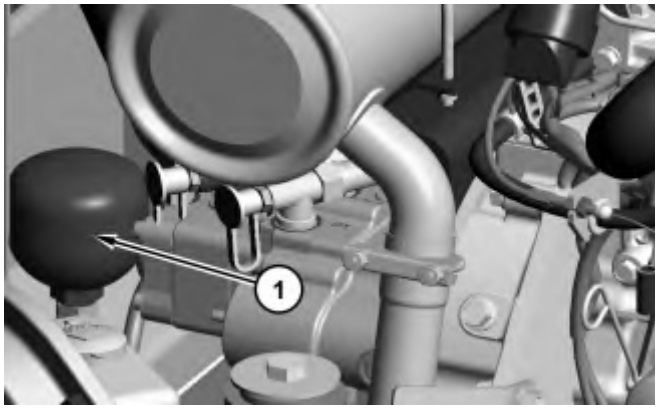

Illustration 1 g01194305

2. Remove accumulator (1) .

Installation Procedure

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

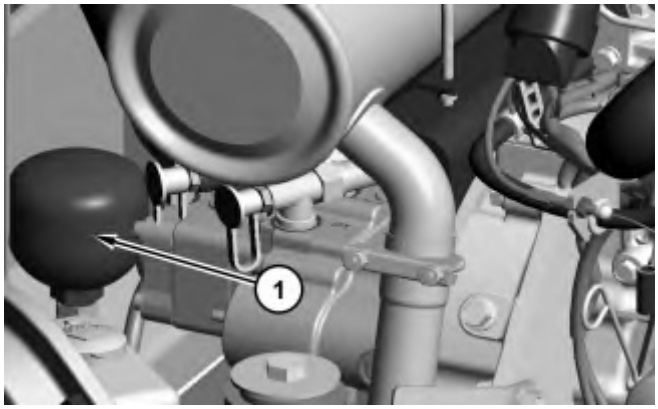

Illustration 2 g01194305

1. Install accumulator (1). Tighten accumulator (1) to a torque of 30 ± 5 N·m (22 ± 4 lb ft).
2. Close the engine access door.

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Disassembly and Assembly
302.5C Mini Hydraulic Excavator Machine Systems
Media Number -RENR9147-00 **Publication Date -01/09/2005** **Date Updated -13/09/2005**

i02373056

Blade - Remove and Install

SMCS - 6060-010

Removal Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	1P-1864	Retaining Ring Pliers As	1
B	189-0409	Shackle As	1
C	1U-7519	Hydraulic Pump	1
	6V-7047	Single Acting Cylinder	1
	FT-3039	Receiving Sleeve	1
	FT-3038	Puller Plate	1
	5P-4776	Tool Stud	1
	9U-6833	Nut	1

1. Lower the blade to the ground.
2. Release the hydraulic system pressure. Refer to Disassembly and Assembly, "Hydraulic System Pressure - Release".

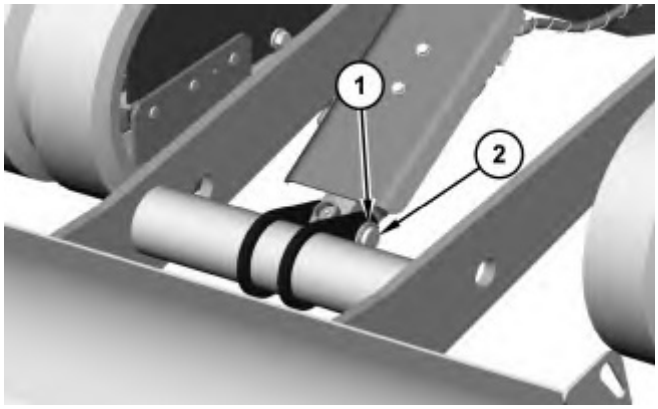

Illustration 1 g01183791

3. Use Tooling (A) in order to remove retaining ring (1). Remove pin (2) .

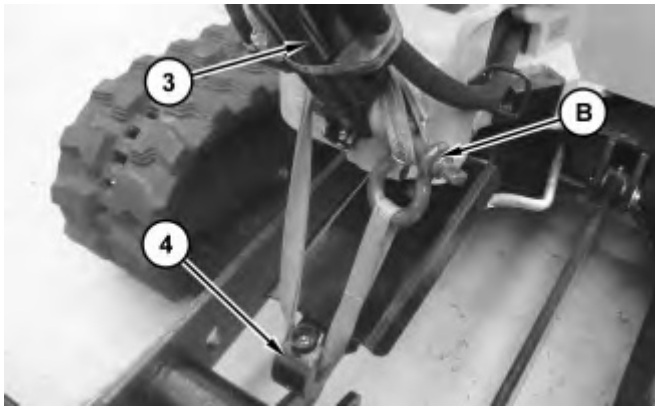

Illustration 2 g01183848

4. Secure blade cylinder (4) to boom cylinder (3) with a suitable lifting sling and Tooling (B) .

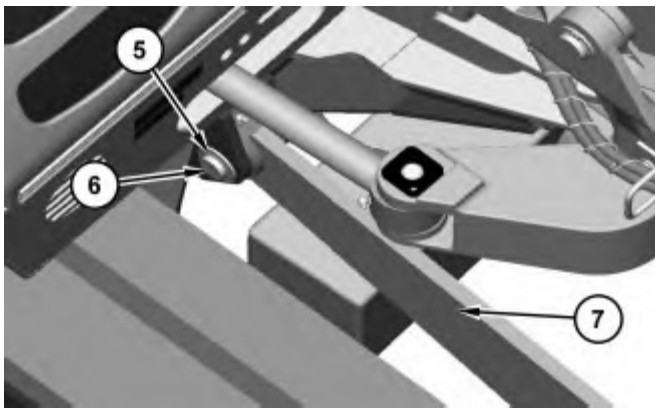

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Illustration 3 g01183873

5. Position suitable blocking under blade (7) .
6. Use Tooling (A) in order to remove retaining ring (5). Remove pin (6). Repeat for the opposite side.
7. Move the machine away from blade (7). The weight of blade (7) is approximately 145 kg (320 lb).

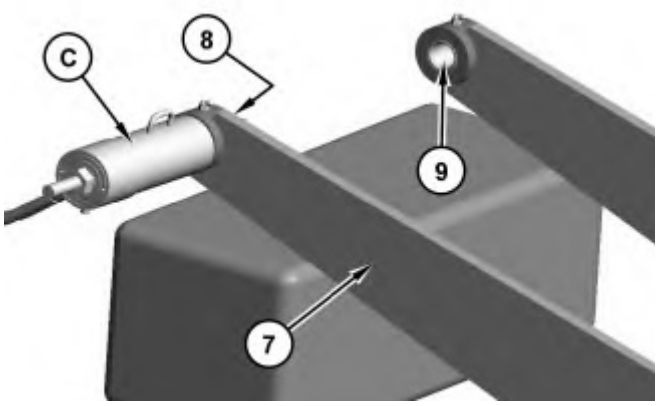

Illustration 4 g01196494

8. Use Tooling (C) in order to remove bearings (8) and (9) from blade (7) .

Installation Procedure

Table 2

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	1P-1864	Retaining Ring Pliers As	1
B	189-0409	Shackle As	1
D	1P-0510	Driver Gp	1

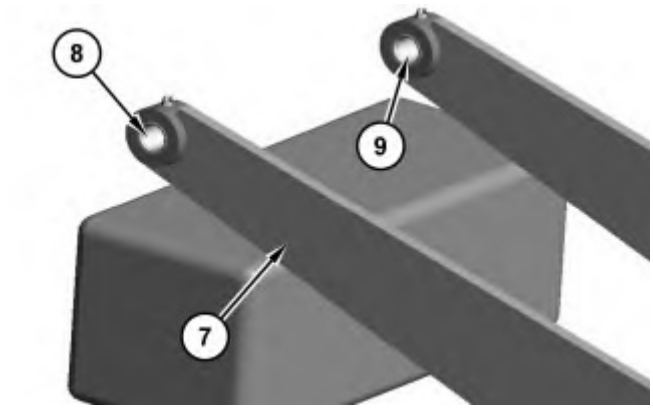

Illustration 5 g01196515

1. Lower the Temperature of bearings (8) and (9). Use Tooling (D) in order to install bearings (8) and (9) to blade (7) .

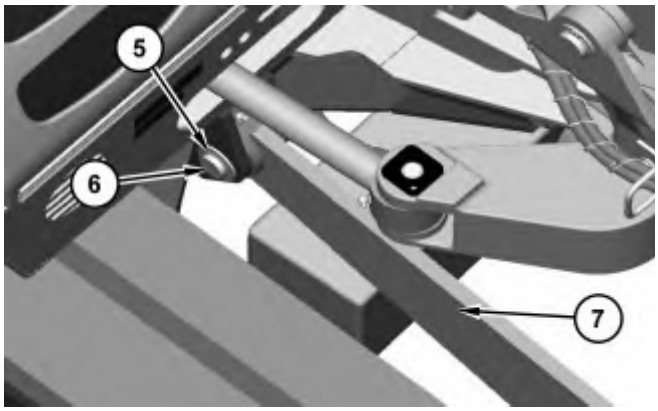

Illustration 6 g01183873

2. Position the machine to blade (7). The weight of blade (7) is approximately 145 kg (320 lb).
3. Install pin (6). Use Tooling (A) in order to install retaining ring (5). Repeat for the opposite side.
4. Remove the suitable blocking under blade (7) .

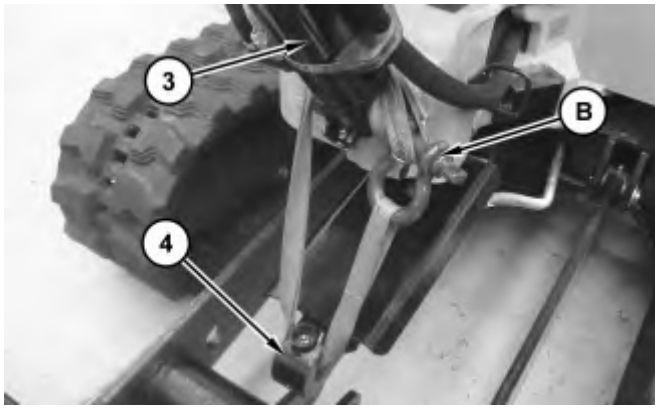

Illustration 7 g01183848

5. Remove the suitable lifting sling and Tooling (B) from blade cylinder (4) and boom cylinder (3). Position blade cylinder (4) .

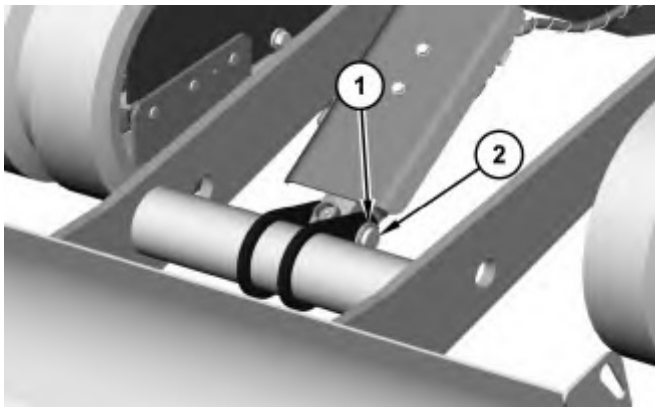

Illustration 8 g01183791

6. Install pin (2). Use Tooling (A) in order to install retaining ring (1) .

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Disassembly and Assembly
302.5C Mini Hydraulic Excavator Machine Systems
Media Number -RENR9147-00 **Publication Date -01/09/2005** **Date Updated -13/09/2005**

i02368669

Blade Cylinder - Remove and Install

SMCS - 7562-010-BG

Removal Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	1P-1864	Retaining Ring Pliers As	1

WARNING

Cylinders equipped with lock valves can remain pressurized for very long periods of time, even with the hoses removed.

Failure to relieve pressure before removing a lock valve or disassembling a cylinder can result in personal injury or death.

Ensure all pressure is relieved before removing a lock valve or disassembling a cylinder.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

Note: Cleanliness is an important factor. Before the disassembly procedure, the exterior of the component should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism.

Note: Put identification marks on all lines, on all hoses, on all wires, and on all tubes for installation purposes. Plug all lines, hoses, and tubes. This helps to prevent fluid loss and this helps to keep contaminants from entering the system.

1. Rotate the upper structure to a 45 degree angle. Position the blade and the bucket on the ground.
2. Release the hydraulic system pressure. Refer to Disassembly and Assembly, "Hydraulic System Pressure - Release".

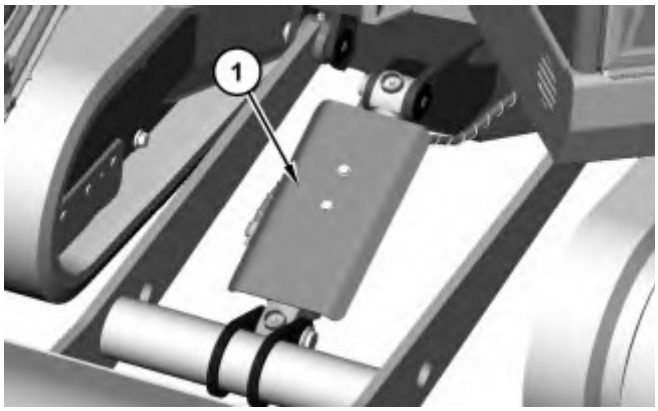

Illustration 1 g01182205

3. Remove cover (1) .

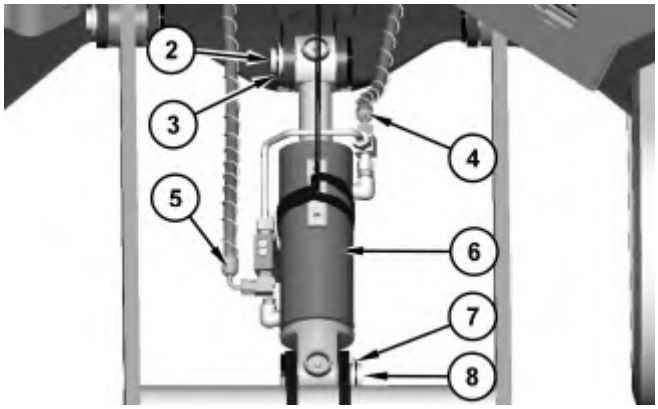

Illustration 2 g01182212

4. Attach a suitable lifting device to blade cylinder (6). Disconnect hose assemblies (4) and (5) .
5. Use Tooling (A) in order to remove retaining ring (7). Remove pin (8) .
6. Use Tooling (A) in order to remove retaining ring (3). Remove pin (2). Remove blade cylinder (6). The weight of blade cylinder (6) is approximately 25 kg (55 lb).

Disassembly and Assembly Information

Table 2

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
B	127-4904	Hydraulic Cylinder Repair Stand Gp	1
C	7M-7456	Bearing Mount Compound	1
D	1P-0808	Multipurpose Grease	1
E	195-4609	Seal Pick	1
F	5P-3520	Spanner Wrench	1

WARNING

Cylinders equipped with lock valves can remain pressurized for very long periods of time, even with the hoses removed.

Failure to relieve pressure before removing a lock valve or disassembling a cylinder can result in personal injury or death.

Ensure all pressure is relieved before removing a lock valve or disassembling a cylinder.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

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Dispose of all fluids according to local regulations and mandates.

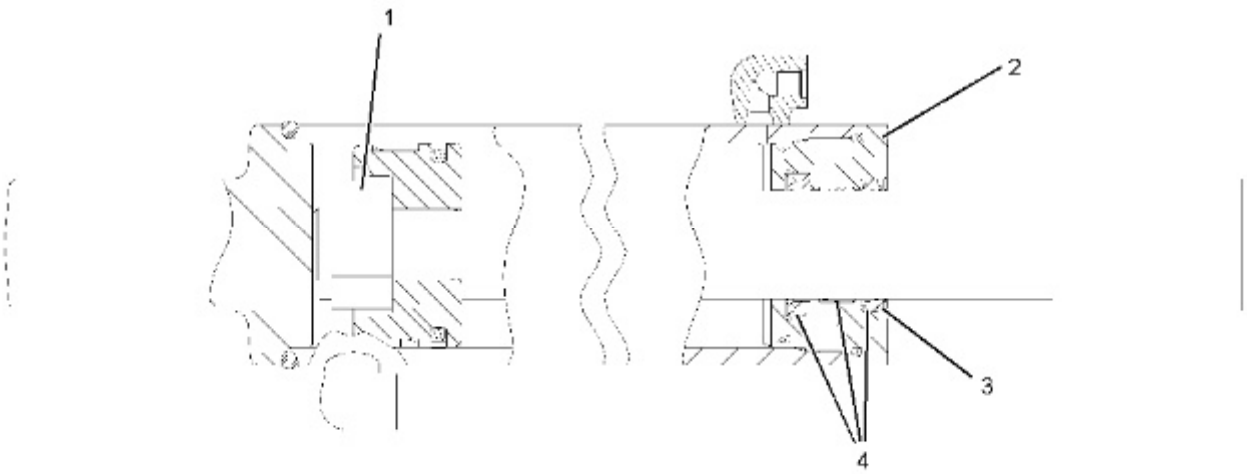

Illustration 3 g01182267

(1) Apply Tooling (D) to the threads and tighten the nut to a torque of 500 ± 50 N·m (369 ± 37 lb ft).

(2) Apply Tooling (D) to the threads. Use Tooling (F) to tighten the head to a torque of 450 ± 50 N·m (332 ± 37 lb ft).

(3) Apply Tooling (C) to the seal groove prior to installation.

(4) Lubricate the seals with the lubricant that is being sealed.

Installation Procedure

Table 3

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	1P-1864	Retaining Ring Pliers As	1

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

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Dispose of all fluids according to local regulations and mandates.

Note: Cleanliness is an important factor. Before the assembly procedure, the exterior of the component should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism.

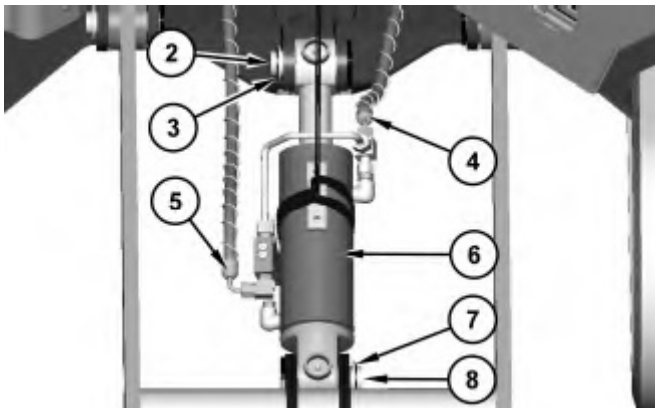

Illustration 4 g01182212

1. Attach a suitable lifting device to blade cylinder (6) and position blade cylinder (6). The weight of blade cylinder (6) is approximately 25 kg (55 lb).

2. Install pin (8). Use Tooling (A) in order to install retaining ring (7) .
3. Install pin (2). Use Tooling (A) in order to install retaining ring (3). Connect hose assemblies (4) and (5) .

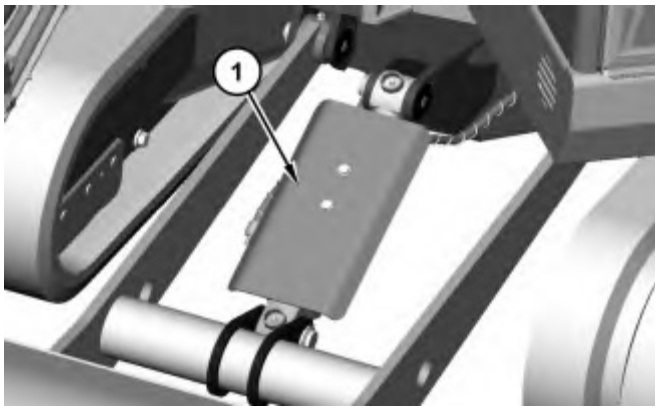

Illustration 5 g01182205

4. Install cover (1) .

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Disassembly and Assembly
302.5C Mini Hydraulic Excavator Machine Systems
Media Number -RENR9147-00 **Publication Date -01/09/2005** **Date Updated -13/09/2005**

i02362264

Blower Motor (Heater) - Remove and Install

SMCS - 7304-010-BW

Removal Procedure

Start By:

A. Remove the seat. Refer to Disassembly and Assembly, "Seat - Remove and Install".

WARNING

Personal injury can result from contact with refrigerant.

Contact with refrigerant can cause frost bite. Keep face and hands away to help prevent injury.

Protective goggles must always be worn when refrigerant lines are opened, even if the gauges indicate the system is empty of refrigerant.

Always use precaution when a fitting is removed. Slowly loosen the fitting. If the system is still under pressure, release it slowly in a well ventilated area.

Personal injury or death can result from inhaling refrigerant through a lit cigarette.

Inhaling air conditioner refrigerant gas through a lit cigarette or other smoking method or inhaling fumes released from a flame contacting air conditioner refrigerant gas, can cause bodily harm or death.

Do not smoke when servicing air conditioners or wherever refrigerant gas may be present.

Use a certified recovery and recycling cart to properly remove the refrigerant from the air conditioning system.

NOTICE

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Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

Note: Cleanliness is an important factor. Before the disassembly procedure, the exterior of the component should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism.

Note: Put identification marks on all lines, on all hoses, on all wires, and on all tubes for installation purposes. Plug all lines, hoses, and tubes. This helps to prevent fluid loss and this helps to keep contaminants from entering the system.

1. Recover the air conditioner refrigerant from the air conditioner system. Refer to Service Manual, SENR5664, "Air Conditioning and Heating Systems with R-134a Refrigerant" for the correct procedure. Refer to Special Publication, NEDG5065, "Air Conditioning Tools" for the correct tools.

2. Drain the coolant from the cooling system into a suitable container for storage or disposal. Refer to Operation and Maintenance Manual, "Cooling System Coolant (ELC) - Change".

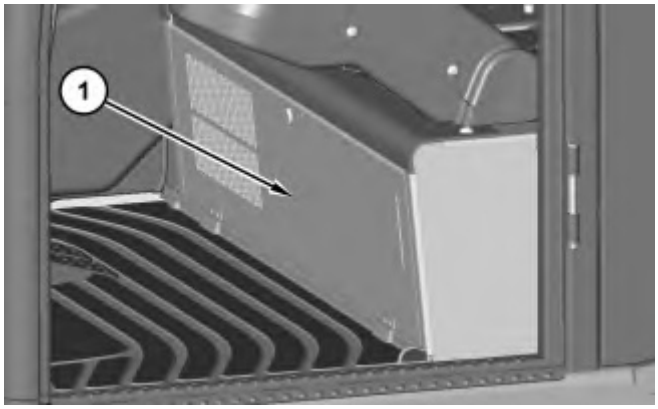

Illustration 1 g01178997

3. Open access door (1) .

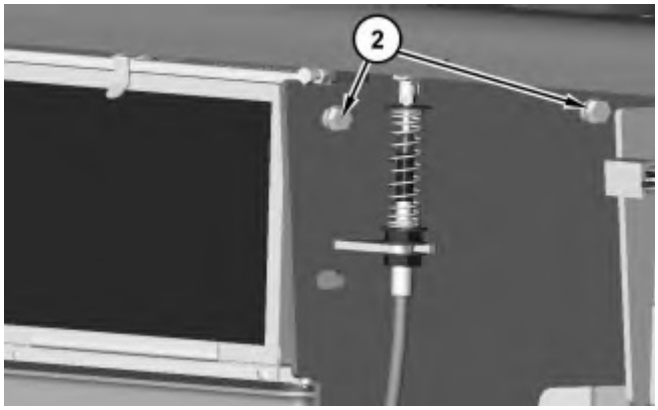

Illustration 2 g01179008

4. Remove bolts (2) .

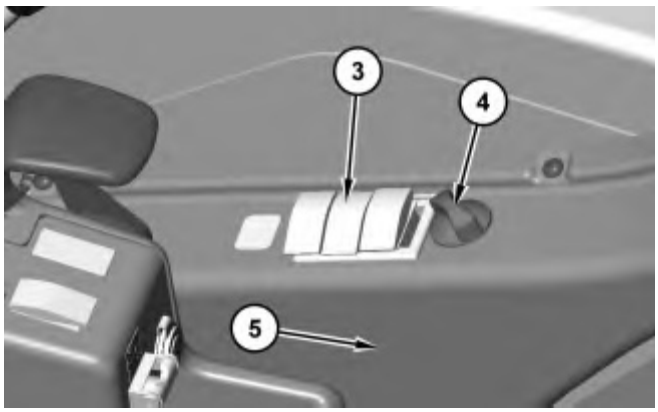

Illustration 3 g01179031

5. Remove switch assemblies (3) and disconnect the harness assemblies. Remove knob (4) and the nut. Remove duct assembly (5) .

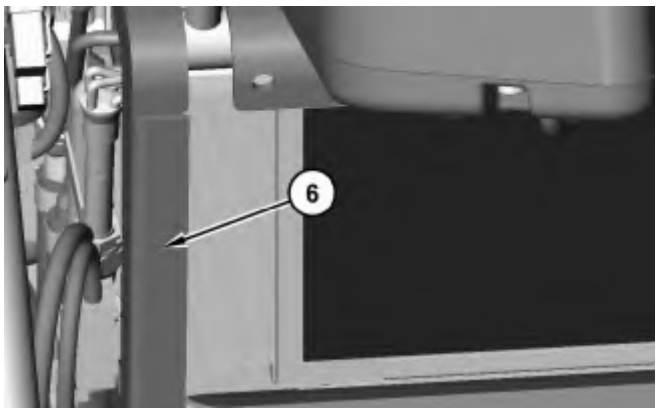

Illustration 4 g01179036

6. Remove support assembly (6) .

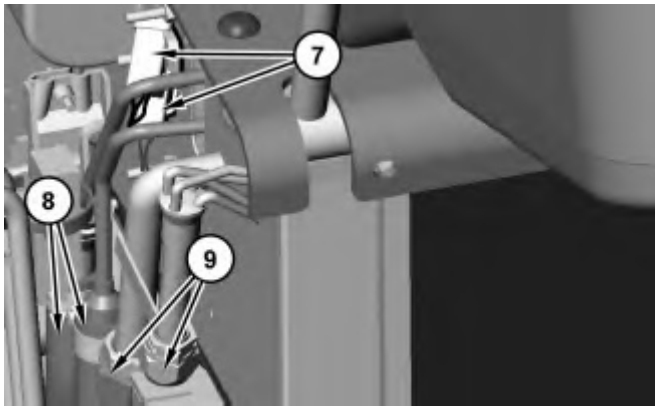

Illustration 5 g01179057

7. Disconnect harness assemblies (7). Disconnect hoses (8) and hose assemblies (9) .

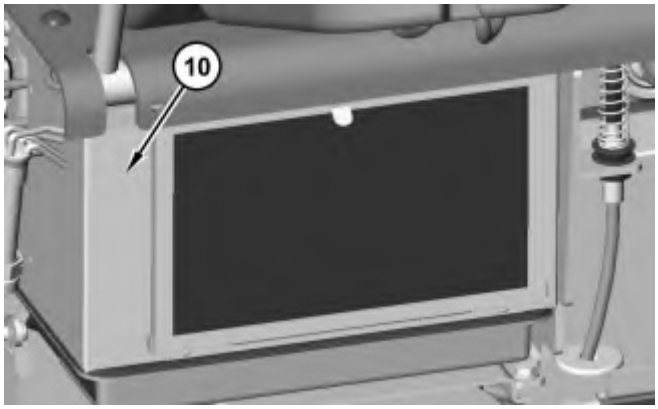

Illustration 6 g01179092

8. Remove heater assembly (10) .

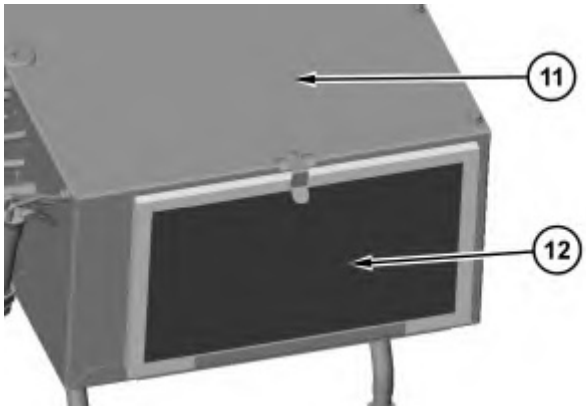

Illustration 7 g01179358

9. Remove cover (11) and filter (12) .

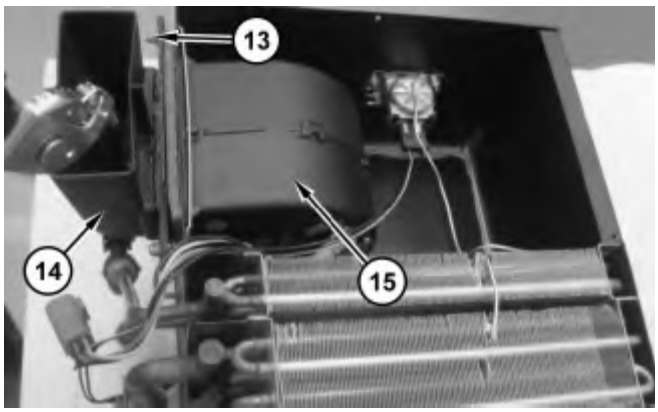

Illustration 8 g01179970

10. Remove four bolts (13) and reposition duct (14) .
11. Remove blower motor (15) .

Installation Procedure

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

Note: Cleanliness is an important factor. Before the assembly procedure, the exterior of the component should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism.

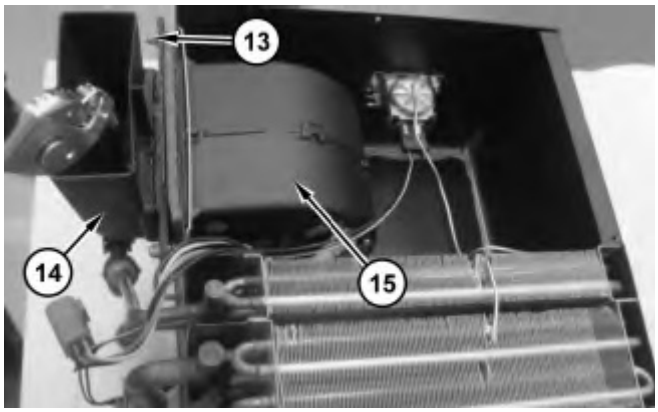

Illustration 9 g01179970

1. Position blower motor (15) .

2. Position duct (14) and install four bolts (13) .

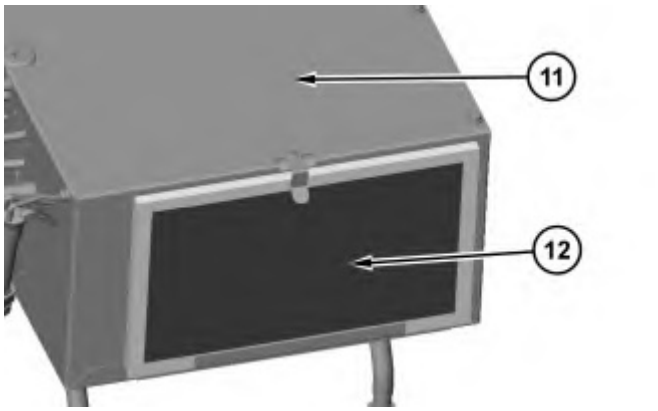

Illustration 10 g01179358

3. Install cover (11) and filter (12) .

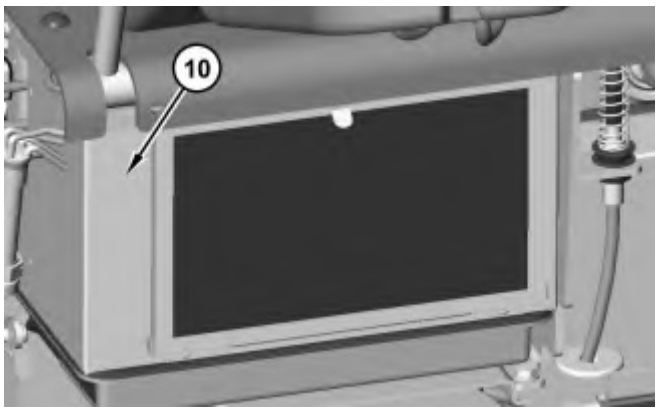

Illustration 11 g01179092

4. Position heater assembly (10) .

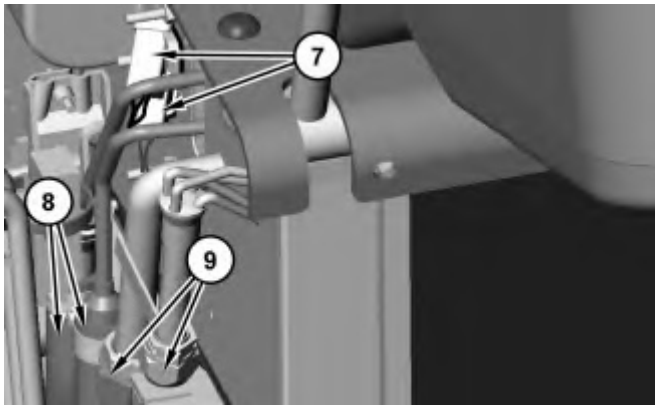

Illustration 12 g01179057

5. Connect hoses (8) and hose assemblies (9). Connect harness assemblies (7) .

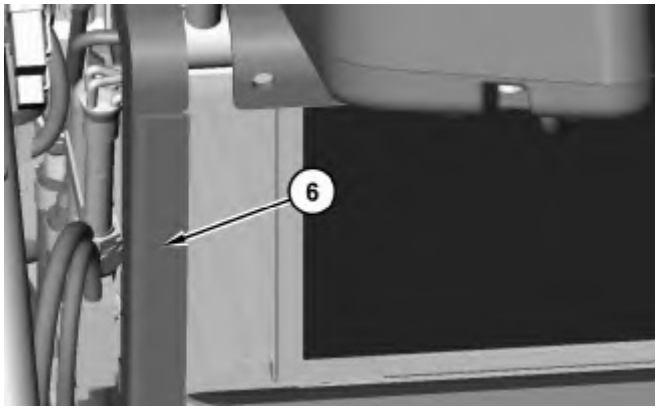

Illustration 13 g01179036

6. Install support assembly (6) .

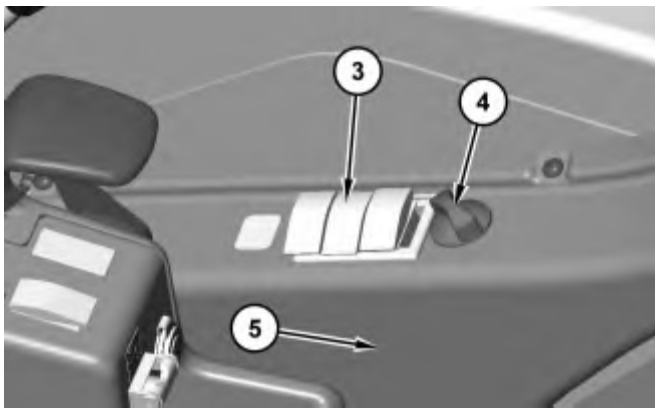

Illustration 14 g01179031

7. Position duct assembly (5). Connect the harness assemblies and install switch assemblies (3). Install knob (4) and the nut.

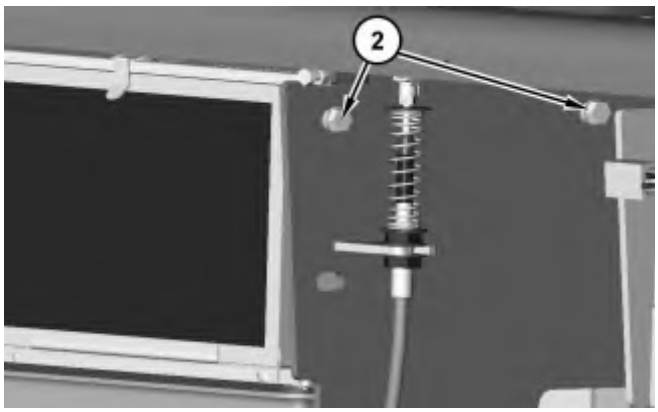

Illustration 15 g01179008

8. Install bolts (2) .

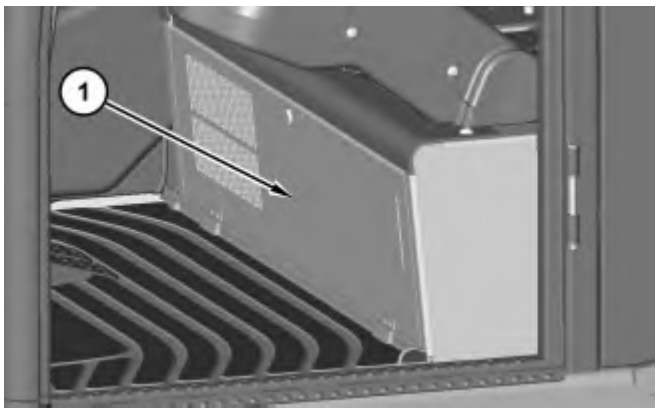

Illustration 16 g01178997

9. Close access door (1) .
10. Fill the cooling system. Refer to Operation and Maintenance Manual, "Cooling System Coolant (ELC) - Change".
11. Charge the air conditioner system. Refer to Service Manual, SENR5664, "Air Conditioning and Heating Systems with R-134a Refrigerant" for the correct procedure. Refer to Special Publication, NEDG5065, "Air Conditioning Tools" for the correct tools.

End By: Install the seat. Refer to Disassembly and Assembly, "Seat - Remove and Install".

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FINNING CAT

Service Information System

Shutdown SIS

Previous Screen

Product: NO EQUIPMENT SELECTED
Model: NO EQUIPMENT SELECTED
Configuration: NO EQUIPMENT SELECTED

Disassembly and Assembly
302.5C Mini Hydraulic Excavator Machine Systems
Media Number -RENR9147-00 **Publication Date -01/09/2005** **Date Updated -13/09/2005**

i02379126

Boom - Remove and Install

SMCS - 6501-010

Removal Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	1P-1859	Retaining Ring Pliers	1
B	1U-9199	Lever Puller Hoist	1
C	189-0409	Shackle As	2
D	138-7575	Link Bracket	2
E	1U-7519	Hydraulic Pump	1
	6V-7047	Single Acting Cylinder	1
	FT-3039	Receiving Sleeve	1
	FT-3038	Puller Plate	1
	5P-4776	Tool Stud	1
	9U-6833	Nut	1

Start By:

A. Remove the stick cylinder. Refer to Disassembly and Assembly, "Stick Cylinder - Remove and Install".

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